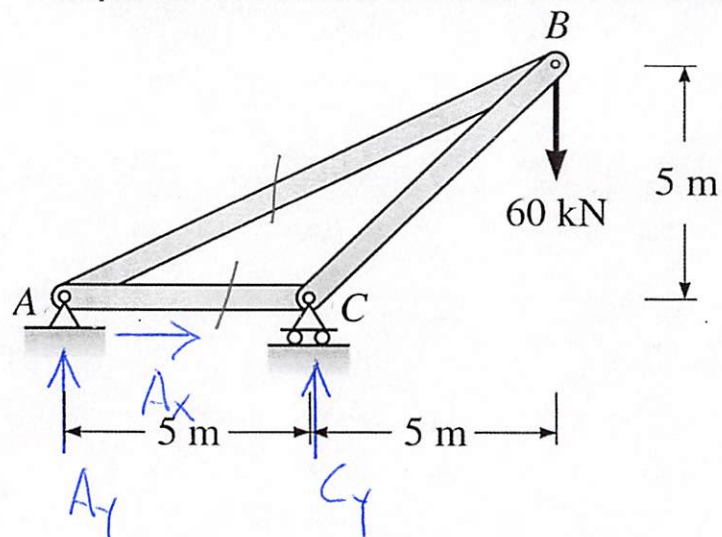


Example 3b-1. Determine all the forces in the following truss.



$$\sum M_A = 0 = -60 \text{ kN}(10 \text{ m}) + C_y(5 \text{ m})$$

$$C_y = 120 \text{ kN}$$

$$\sum F_y = 0 = A_y + C_y - 60 \text{ kN}$$

$$A_y = -60 \text{ kN}$$

$$\sum F_x = 0 = A_x$$

JOINT A

$$\sum F_y = 0$$

$$= \frac{1}{\sqrt{5}} F_{AB} - 60 \text{ kN}$$

$$F_{AB} = 134.16 \text{ kN}$$

$$\sum F_x = 0$$

$$= F_{AC} + \frac{2}{\sqrt{5}} F_{AB}$$

$$F_{AC} = -120 \text{ kN}$$

JOINT C

$$\sum F_y = 0$$

$$= \frac{1}{\sqrt{2}} F_{BC} + 120 \text{ kN}$$

$$F_{BC} = -169.7 \text{ kN}$$

$$\sum F_x = 0 = -F_{AC} + \frac{1}{\sqrt{2}} F_{BC} \checkmark$$